

ABSTRACT

A method for programming and erasing a memory array includes the step of adapting programming or erase pulses to the current state of the memory array. In one embodiment, the step of adapting includes the steps of determining the voltage level of the programming pulse used to program a fast bit of the memory array and setting an initial programming level of the memory array to a level in the general vicinity of the programming level of the fast bit. For erasure, the method includes the steps of determining erase conditions of the erase pulse used to erase a slowly erasing bit of said memory array and setting initial erase conditions of said memory array to the general vicinity of said erase conditions of said slowly erasing bit. In another embodiment of the array, the step of adapting includes the steps of measuring the current threshold level of a bit to within a given range and selecting an incremental voltage level of a next programming or erase pulse for the bit in accordance with the measured current threshold level.

15